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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,968	04/18/2006	Andreas Zeller	AP 10614	1979

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EXAMINER	
KONG, SZE-HON	

ART UNIT	PAPER NUMBER
3661	

MAIL DATE	DELIVERY MODE
01/05/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/542,968	ZELLER ET AL.	
	Examiner	Art Unit	
	SZE-HON KONG	3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 October 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 10/12/2009 have been fully considered but they are not persuasive.

2. Applicant's arguments with respect to claims 6-10 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.,* 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koibuchi (6,405,116), Jonner et al. (4,852,009) and Tozu et al. (5,752,752).

For claims 6, 7 and 10, Koibuchi discloses a system for improve driving stability with hydraulic pressure in the wheel cylinder is adjusted to control the brake actuator for the front and rear wheels and the skid control computer detect the wheel speeds of the

front and rear wheels to calculate the slip rate of the wheels and estimate the friction coefficient μ of a road surface from the slip rate, that is detecting the vehicle is in a 'μ-split" situation (Col. 4, lines 11-40); Performing pressure modulation on at least one front wheel (Col. 6, lines 15-35).

Koibuchi does not explicitly disclose yaw torque detection, but it would have been obvious one of ordinary skill in the art that the yaw rate sensor taught by Koibuchi can detect the yaw torque of a vehicle if needed, using known mathematical equations. Jonner discloses yaw torque detects and determining if one of the front wheels has a tendency to block, that is under brake control influence the rear wheel braking pressure (Col. 2, lines 52-60).

Koibuchi does not explicitly disclose the pressure modulation performed on both rear wheels is substantially the same as the pressure modulation on the at least one front wheel without substantial changes. Tozu discloses a vehicle motion control system with anti-skid stability control determines and applying a braking force to a front wheel and to both rear wheels to produce a yaw moment to the vehicle. It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the invention of Koibuchi to apply the same braking force to both a front wheel and both rear wheels of a vehicle, taught by Tozu to prevent skid and maintain stability of the vehicle.

For claim 8, Koibuchi discloses determining if the rear-wheel brake torque to be generated is greater than a max value, power train control assists the pressure

modulation on the rear axle, and pressure modulation can be reduced when the brake torque is less than the value, differently effects the adaptation of the pressure modulation (Col. 7, lines 17-35).

Koibuchi does not specifically disclose differently weighting pressure increase time and reduction time of the axle but would be obvious to one of ordinary skill in the art that the threshold value taught by Koibuchi determines the time for increase and decrease the pressure on the rear wheels. Jonner discloses upon instability of operation of one of the front wheels is determined, maintain the pressure at the rear wheel brakes until a tendency to block on the wheel is determined and phase of constant brake pressure permitting slight decrease of braking pressure applied to the rear wheel brakes for a predetermined time interval (Col. 3, lines 3-27). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the invention of Koibuchi to control braking pressure of the wheel brakes timely, taught by Jonner to prevent wheels lock up and minimize slip effectively control vehicle brakes for stability.

For claim 9, Koibuchi discloses parallel control of a power train output control, an assisted brake control that can be performed together with rear-wheel brake control (Fig. 2, col. 6, lines 50-62).

Koibuchi does not specifically disclose ABS control functions and the control of the rear axle are parallel active so that pressure is reduced on both rear wheels when an unstable wheel behavior is imminent on at least one rear wheel. ABS controls are well known to active when an unstable wheel is imminent to prevent lock on wheels.

Jonner discloses the rear wheels can be influenced by the instability of one of the front wheels and ABS control can provide a phase of constant brake pressure to decrease braking pressure to the rear wheel brakes and that the braking pressure on the rear wheels are controlled by the ABS controller (Col. 3, lines 3-27). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the invention of Koibuchi to apply ABS control to the wheels to decrease braking pressure of the wheel brakes, taught by Jonner to prevent wheels lock up and reduces slip during drive instability.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(6,618,663) Aga discloses a braking force control applying the same brake force on one of the front wheel and both rear wheels of a vehicle.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SZE-HON KONG whose telephone number is (571)270-1503. The examiner can normally be reached on 7:30AM-5PM Mon-Fri, Alt. Fri. Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

12/22/09

/SZE-HON KONG/

Examiner, Art Unit 3661

/Thomas G. Black/
Supervisory Patent Examiner, Art Unit 3661